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ABSTRACT

The notion that completeness of a goal intent will cause a fundamental change in the whole character of evaluation methodology is discussed. In addition, a series of methodological gaps are described. The focus was the lack of a methodic way to: (1) Establish pertinent goals; (2) Acquire goals such that the original intended outcome remain invariant throughout the evaluative process; (3) Ascertain whether the decision-maker uses the data provided by the evaluator; (4) Provide useful data for improvement and modification during the evaluative process; (5) Validate the measurability of a goal intent; (6) Train decision-makers as a participant in the evaluative process; and (7) Institutionalize a formal discipline for training educational evaluators. (Author/CK)

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A Methodological Gap--The Completeness of a Goal Intent

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Ambiguities around the concept of evaluation combined with the things that the evaluator purports to do lead to a series of methodological gaps. The completeness aspect of a goal intent is one such gap. Completeness should be judged by the impact that evaluative data has on decisions made by decison-makers.

Some Prevalent Methodological Gaps

By methodological gap this writer means the absence of a set of procedures or methodology that enhances the understanding and mastery of an evaluation problem or issue. Since this definition is somewhat vague and lacks specificity, the number of existing methodological gaps might be quite large. In fact, the present state of the art might possibly be that, to a great extent, methodological gaps have not yet been

articulated or publicized on any wide scale.

In light of the foregoing, this writer will consider a limited number of methodological gaps only. They include the following:

1. The lack of a systematic way of establishing pertinent goals of enterprise to be evaluated. For example, there is considerable methodology on how to formally state goals and a variety of taxonomies of goals (Bloom (1969), Mager (1961), and McAshan (1970) discuss some), but almost no set of procedures current in evaluation literature with respect to how to tease significant goals out of program literature or documents exist. Methodology for such activity is available in other disciplines such as the natural and physical sciences and instructional technology and management. To a large extent goals are written such that they influence proposal funding. This overused purpose of a goal oftentimes obscures its real intent.

2. The lack of the wherewithal to acquire a uniform set of goals that remain invariant throughout the evaluation of an enterprise irrespective of audience. There are times when goals should be changed during the in-progress stage of evaluation; e.g., a feature of formative evaluation. In fact, if the decision-maker decides to modify a goal on the basis of evaluative data, the evaluator, himself, may be useful resource provided the decison-maker recognizes that a change of goals implies a change of intended outcomes. For instance, it is one thing for a decision-maker to change a goal so that pertinent variables and their implications are consistent with the already established intended outcomes. It is, indeed, another thing for decision-makers to change a goal so that variables and their implications are consistent with programmatic operations. This is especially true if such operations tend to produce outcomes that may differ markedly from the original intended outcomes of the goal.

3. The lack of the wherewithal to ascertain whether the decision-maker uses the data provided by the evaluator. The current notion of evaluation opts to provide data for decision-making by decison-makers. There is little evidence to support the fact that decision-makers themselves have either any influence over the data or affinity or respect for the data that is offered to aid them in their decision-making. This state of the art makes it conducive for the decision-maker to ignore such data.

4. The lack of a systematic way to provide useful data for improvement and modification during the in-progress stage of the evaluation. There are many reasons why there is no systematic way to provide useful data. Sometimes not enough useful data has been gathered; e.g., if a laboratory test for biopsy analysis of possibly malignant tissue are inaccurate, that data alone is not helpful for systematic improvement. Data is needed on processing the tissue from the moment of taking it from the patient through delivery to the laboratory, analysis of finding, and the report of results. There are other times when the way in which data are presented have little effect on whether such data are used for useful improvements in any systematic manner. There are many schools, for example, that take standardized achievement test data and simply store them in file cabinets or place them on the shelf. Too often evaluation data arrives too late to be of practical value to decis-on-makers. Evaluation data must provide a rational basis for modification should program operations warrant such change. That is, if (a) a deviation from the real goal intent of the decision-maker occurs and (b) a descrepancy with respect to the implementation of the decision-maker's real goal intent occurs, then, the evaluation data should provide implication for a systematic change that would lead to the attainment of the decision-maker's desired outcomes.

5. The lack of the wherewithal to validate the measurability of a goal intent. Because of the multiplicity of the purpose of goals, their real intent seldom manifest themselves. In instances where goal intents are evident, too often they appear in a form that is either highly general or somewhat vague that needs to be delineated to the extent that they can be stated into specific and meaningful observable components. The fact that goals can be delineated to the extent that they can be stated in the form of a behavioral component implies the following:

    a. The desired behavior can be observed directly from a qualitative perspective or;

    b. The desired behavior is measurable from a quantitative perspective.

Thus giving rise to the development of either measurable techniques or observable techniques or both. Validity questions about these techniques reflects the inadequacy of evaluation methodology to date.

6. The lack of decision-maker training in relation to evaluation as a process. The degree to which most educational enterprises have clearly defined goals leaves something to be desired. This condition may explain why it is entirely possible for public school evaluations to be meaningless. These evaluations reflect the confusion of administrators regarding educational programs which sometimes may be equally meaningless. Due to the lack of theory and the absence of tradition of good practice it is also possible that some evaluators fail to fulfill evaluation needs, conceptually. There may be a relationship among the strength of educational programs, evaluation methodology, and the training provided in institutions for both decision-makers and evaluators.

7. The lack of formal training for evaluators. Up to the present time practitioners in evaluation have received their training in evaluation techniques on a piecemeal basis. Some of their training was received in courses in tests and measurements; some of their training was acquired in educational statistics and psychology courses; and other parts of their training were tacked-on to methods courses. This piecemeal approach to the development of evaluation skills has generally been unsatisfactory. Educators of the field are normally poor evaluators, in part because of their inability to synthesize the varying fragments of training into functional skills.

The term "methodology", with respect to this paper, means the science of methods. The methodological gaps discussed in the preceding paragraph amplifies the need for extensive research regarding evaluation methodology. In addition to these methodological gaps, there are others worthy of consideration. Among them is a very important one--the completeness of a goal intent. A discussion of this gap is presented in the section which follows.

The Completeness of a Goal Intent

The development of evaluation skills and methodology has not kept up with the increasing needs for evaluation. An important methodological concept from a practical point of view is completeness. By completeness, this writer means the attainment of the state such that there is a list of variables all of which meet the "non-fuzzy" concept cirterion and, at the same time, characterize the decision-maker's real goal intent fully. By "non-fuzzy" concept this writer means a variable with behavior that is either directly observable or measurable. Implicit in the concept of completeness are focus and efficiency: These terms will be explained later. Presumably, if goal statements are operationalized properly, then variables that can influence important decisions will be generated.

Completeness connotes validity, which entails the question of whether an assessment technique serves its ultimate purpose adequately. In the case of evaluation which has the specific purpose of providing useful data for decision-making by decison-makers, completeness is ascertained by the degree to which decision-makers use the data provided. The question of whether an assessment technique serves its ultimate purpose adequately is determi ed by the amount of evaluative data used by the decision-maker.

For purposes of this paper, the notion of completeness presupposes the employment of the operationalization of fuzzy concept (OFC) methodology to generate a viable list of variables. The OFC methodology--originated by Hutchinson (1969)--is a systematic way of delineating a somewhat vague statement into observable behaviors or states and providing a procedure for quantifying such behaviors. For a more detailed discussion interested persons are referred to Jones (In Press).

In evaluation there are essentially two aspects of the completeness of a goal intent. They are (a) getting the decision-maker to articulate his real goal intent to the evaluator and (b) providing useful data for decision-making by decision-makers.

In order to attain the completeness of a goal intent, the evaluator must elicit the decision-maker's entire goal intent. A way in which this can be accomplished is for the evaluator to lead the decision-maker through the appropriate phases of the OFC methodology. The main phases of the OFC methodology are:

1. Procurement of goals
2. Operationalization of goals
3. Development of assessment techniques.
4. Implementation of assessment techniques.
5. Summarization of the evaluation--the report.

An example situation of a somewhat vaguely stated goal for which the OFC methodology was applied, according to Jones (1970), is the goal "Learn to work independently."* Among the list of variables generated by the OFC methodology that characterized the decision-maker's real intent were the following:

1. Make a tentative schedule for studying at school.
2. Make a tentative schedule for studying at home.
3. Study according to the tentative schedule at home.
4. Study according to the tentative schedule at home.
5. Perform a science laboratory experiment independent of supervision.
6. Make-up at least one goal similar to a teacher-made goal.
7. Make-up at least one goal that is of interest to you.
8. Devise ways of carrying out your goal(s).
9. Do home-work assignments.
10. Use reference books daily (dictionary and encyclopedia).

There are times when evaluators enjoy the luxury of considering goals that are clearly stated. For instance, among the goals of the Guidance Counselor of the West Springfield, Massachusetts school system were the following:

1. Be in class on time.
2. Pick up trash about your seats.

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* An administrator's goal for the pupil of a special section of the 6th grade class in the West Springfield, Massachusetts public school district.

At a glance, it can be seen that it is indeed helpful for evaluators to work with clearly stated goals. This is particularly true if they are, in fact, behaviorally stated goals as in the case of the example cited. The evaluator can develop assessment techniques immediately. As a matter fact, the entire evaluative process is simplified by such luxury.

The fact that, for the most part, evaluators work with goals in the form of somewhat vague statements gives rise to a new role for evaluators. That is, the role of clarifying goal statements so that they are amenable to the evaluation of an enterprise. The OFC methodology is a way in which goal clarification can be attained and the preservation of the real intent of the decision-maker's goal is guaranteed throughout the entire process. Therefore, it is reasonable to assume that a pertinent list of variables characterizing a goal intent can be generated. Moreover, it is reasonable to assume that variables comprising such a list have implications germane to an additional aspect of completeness--the concept of closure.

The cyclic aspect of the OFC methodology--test of completeness--provides a guarantee that any arbitrary goal can actually be delineated into components such that is possible for alternatives to be exhausted. The matter of establishing closure via cyclic iterations is extremely difficult and oftentimes impossible. Thus, giving rise to the inference that in general, evaluation as a process is incomplete.

The concept of closure means that all aspects of an arbitrary goal statement has been delineated with respect to decison-maker relevancy. That is both consistency and completeness criteria have been attained. A main feature of the closure concept is that it provides the where-withal for any aspect of every goal statement to be accommodated.

Now, as we turn to another aspect of completeness, let us consider the variable. For purposes of evaluation, a variable is defined as the smallest element of a goal intent. The variables alluded to earlier characterize what is known as an explicit variable. An explicit variable is an unambiguously stated manifestation of a goal intent that can be observed directly. Usually explicit variables manifest themselves in the form of simple sentences. The predicate of the sentence dictates the evaluation activity.

The evaluation activity suggests the data to be produced. That is, the data to be collected and analyzed. If these data are found to be useful for decison-making then implications about completeness with respect to evaluative results may be evident. On the contrary, however, if these data do not influence decision-making the converse holds. The amount of decisions made by the decision-maker without the use of evaluative data reflect the degree of incompleteness of the evaluation for some particular decision-maker.

Included in the domain of completeness are the concepts of efficiency and focus, as stated earlier. Efficiency refers to the amount

of data actually used by the decision-maker in his decison-making process. This implies that the amount of data not used by the decision-making process is the amount of inefficiency of the evaluation for that decision-maker. Focus refers to the effectiveness of the evaluation design. Included in the purpose of the evaluation design is to facilitate the collection and analysis of data to produce pertinent information for decison-makers. In particular, the focus of evaluation encompasses the effectiveness of data as it stands in relation to the number of decisions made on the basis of the data provided.

The concept of effectiveness includes the decision-maker's priorities with respect to goal intent. That is, evaluative results should be such that data is provided for the important decisions and not provided for less important decisions.

Summary

The discussion of completeness was the most important feature of this paper. It is the belief of this writer that the notion of completeness of a goal intent will cause a fundamental change in the whole character of evaluation methodology. Further research on the completeness of a goal intent is in order. Once this concept is developed more fully so that its implications are generalizable to other aspects of evaluation methodology, it should pave the way for the establishment

of evaluation as a scientifically oriented discipline.

Other features of this paper were a series of methodological gaps. The focus was the lack of a methodic way to:

1. Establish pertinent goals.
2. Acquire goals such that the original intended outcome remain invariant throughout the evaluative process.
3. Ascertain whether the decision-maker uses the data provided by the evaluator.
4. Provide useful data for improvement and modification during the evaluative process.
5. Validate the measurability of a goal intent.
6. Train decision-makers as a participant in the evaluative process.
7. Institutionalize a formal discipline for training educational evaluators.

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